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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/528,585	03/21/2005	Hiromu Maeda	2005_0356A	8280
513	7590	06/30/2006	EXAMINER	
WENDEROTH, LIND & PONACK, L.L.P.			DEUBLE, MARK A	
2033 K STREET N. W.			ART UNIT	
SUITE 800			PAPER NUMBER	
WASHINGTON, DC 20006-1021			3651	

DATE MAILED: 06/30/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/528,585	Applicant(s) MAEDA, HIROMU	
	Examiner Mark A. Deuble	Art Unit 3651	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 6-13 is/are rejected.
- 7) ☒ Claim(s) 4, 5 and 14 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 states that the two ball-holding cavities “are formed in a front portion and a rear portion of each of the top plate units.” This suggests that there are four ball-holding cavities, two in the front portion and two in the rear portion of the top plate units. However it appears from the drawings that there are only two total ball-holding cavities in the top plate units, one in the front and one in the rear. This discrepancy between the specification and the claims renders the scope of the claim impossible to ascertain. Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-3, 8, and 10-13 are rejected under 35 U.S.C. 102(b) as being anticipated by Monne et al. (U.S. Patent No. 3,744,618).

Monne et al. shows a three dimensional conveyor having plural top plate units 3 constituted respectively of a top plate 3a having a top face that could be used for mounting a

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conveyed article and a clasping plate 3b fixed to a bottom face of the top plate with a bolt 4. The top plate units have two ball-holding cavities 5, one in the front and one in the rear, formed therein and two rod insertion holes 6 formed therein to pass through from the ball-holding cavities to the front or the rear face of the top plate unit. The top plate units are connected together by couplers constituted of a coupler rod 2 and two terminal balls 8 at the ends of the rod to construct an endless conveyance path through three-dimensional directions. The distance between the centers of the ball-holding cavities and between the centers of the terminal balls of each coupler appears from Fig. 2 to be about half the arrangement pitch length of adjacent top plate units to make so that the distance between the adjacent units is uniform. A space formed in the end portion of the terminal balls and in the corresponding portion of the ball-holding cavity provides a means for making a lubricant pool. The terminal balls fit loosely into the ball holding cavities with the coupler rods extending through the coupler rod insertion hole so that the balls may turn within the ball-holding cavities and so that the coupler rods may move within a prescribed angle range defined by the coupler rod insertion hole. This arrangement enables the top plate units coupled together by the couplers to rotate in 360° around the center line of the conveyance path and enables the top plate units to be freely turned upward, downward, rightward, leftward, or slantingly around the center of the terminal ball as the supporting point. Thus, Monne et al shows all the structure required by claims 1-2 and 10-11.

In regard to the limitation of claim 3 requiring a sprocket engagement portion on each side the top plate unit, it should be noted that while no drive for the conveyor of Monne et al. is shown, the lateral sides of the top plate units would themselves be capable of being engaged by a sprocket to drive the conveyor. Therefore, in the absence of any further limitation defining the

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nature of the sprocket engagement portion, the top plate unit of Monne et al. has all the structure required by claim 3 because the sides are capable of being used as sprocket engagement portions.

In regard to the limitations of claims 8 and 12, it should be noted that the flanges on the top plate face of the top plates 3a shown in cross section in Fig. 1 and in profile in Fig. 3 could prevent articles on the top of the plates from slipping off the sides of the top plate face and could catch conveyed articles before they fall off the top plate face. Thus even though this structure is not discussed as preventing slip or catching articles, Monne et al. also shows all the structure required by claims 8 and 12 because the flanges would be capable of preventing slip or catching articles.

Finally, in regard to claim 13, it should be noted that the pin 4 may project downward at the center of the bottom face of each of the top plate units. This pin could be engaged by a sprocket to drive the conveyor. While there is no sprocket shown engaging this pin, the sprocket is not positively recited as part of the claimed conveyor. Therefore, because the pin 4 could be driven by such a sprocket, Monne et al. shows all the structure required by the passive language of the claims stating that a laterally rotating sprocket is allowed to engage with the projecting pin.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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6. Claims 6-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Monne et al. in view of Lapeyre (U.S. Patent No. 4,170,281).

Monne et al. does not have the cushioning material required by claims 6-7. However, Lapeyre teaches that a plurality of thin upwardly faced flights 57 forming a soft fuzzed member (see Fig. 22) may advantageously be used to cushion objects on the conveyor surface. Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the upper surface of the top plate units with such a cushioning material according to the teachings of Lapeyre.

7. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Monne et al. in view of Kobayashi et al. (U.S. Patent No. 6,142,294).

Monne et al. does not discuss the material of the coupler or the frictional properties thereof. However, Kobayashi et al. teaches that conveyor parts may advantageously be made from a core metal material that is coated with a hard synthetic resin having a low coefficient of friction such as polyacetal resin in order to provide strength and stability while reducing noise and rattling to extend the service life of the conveyor. Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to form the couplers of metal coated with a hard synthetic resin having a low frictional coefficient.

Allowable Subject Matter

8. Claim 4-5 and 14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark A. Deuble whose telephone number is (571) 272-6912.

The examiner can normally be reached on Monday through Friday except for alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gene O. Crawford can be reached on (571) 272-6911. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

md

MARK A. DEUBLE
PATENT EXAMINER

